

132162

Toyota Motor Corporation (TMC) Air Loss Test

Submittal to Docket No. NHTSA-00-8011 - 14

RECEIVED TRANSPORTATION

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NEB

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US DOT Docket Management System

Please place the attached TMC Air Loss Test from Toyota, dated May 22, 2001, in the
aforementioned docket.

Attachment

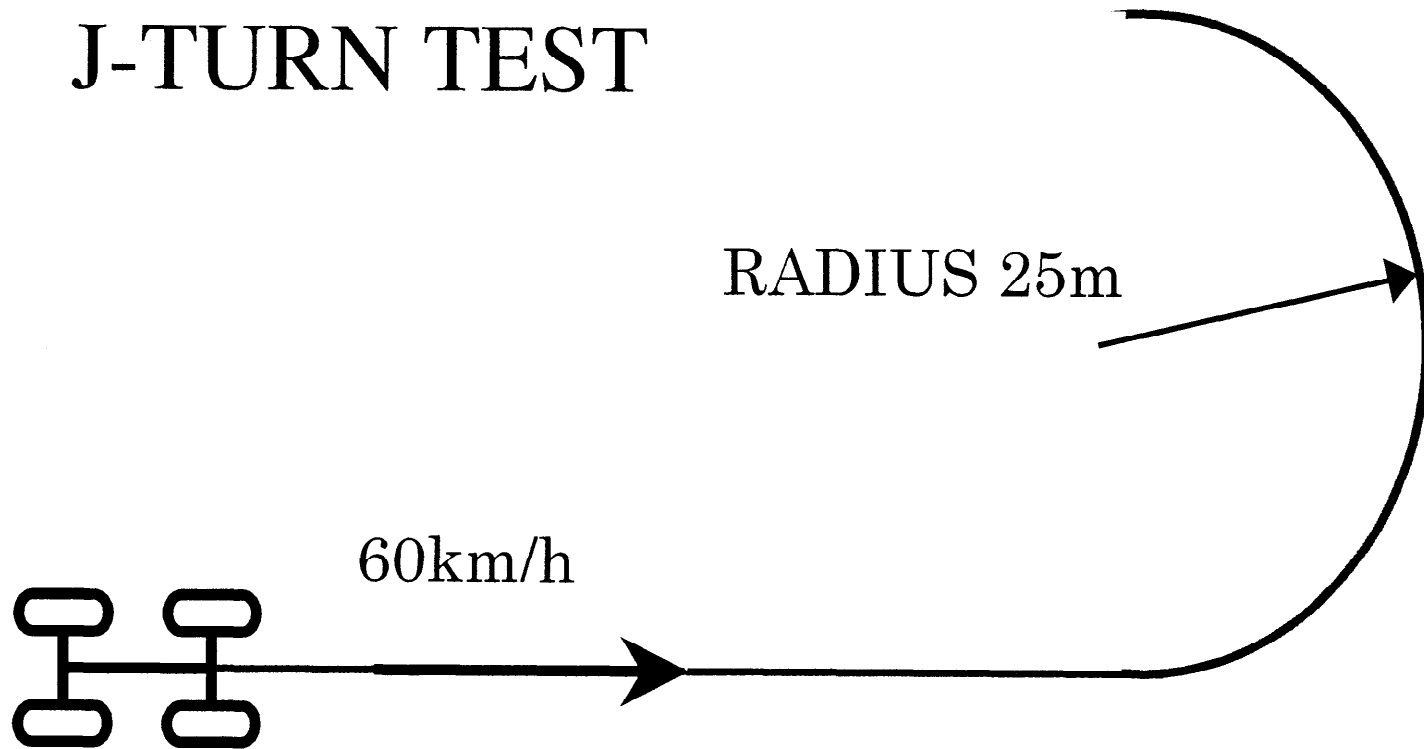
2001.5.22

TMC AIR LOSS TEST

TOYOTA MOTOR CORPORATION

ON VEHICLE AIR LOSS TEST METHOD

J-TURN TEST



AIR LOSS BENCH TEST METHOD

I . PURPOSE

TO EVALUATE
THE AIR LOSS OF TIRE/WHEEL
COMBINATION INDEPENDENT
OF VEHICLE CONDITION

II. EQUIPMENT

PHOTO No.1

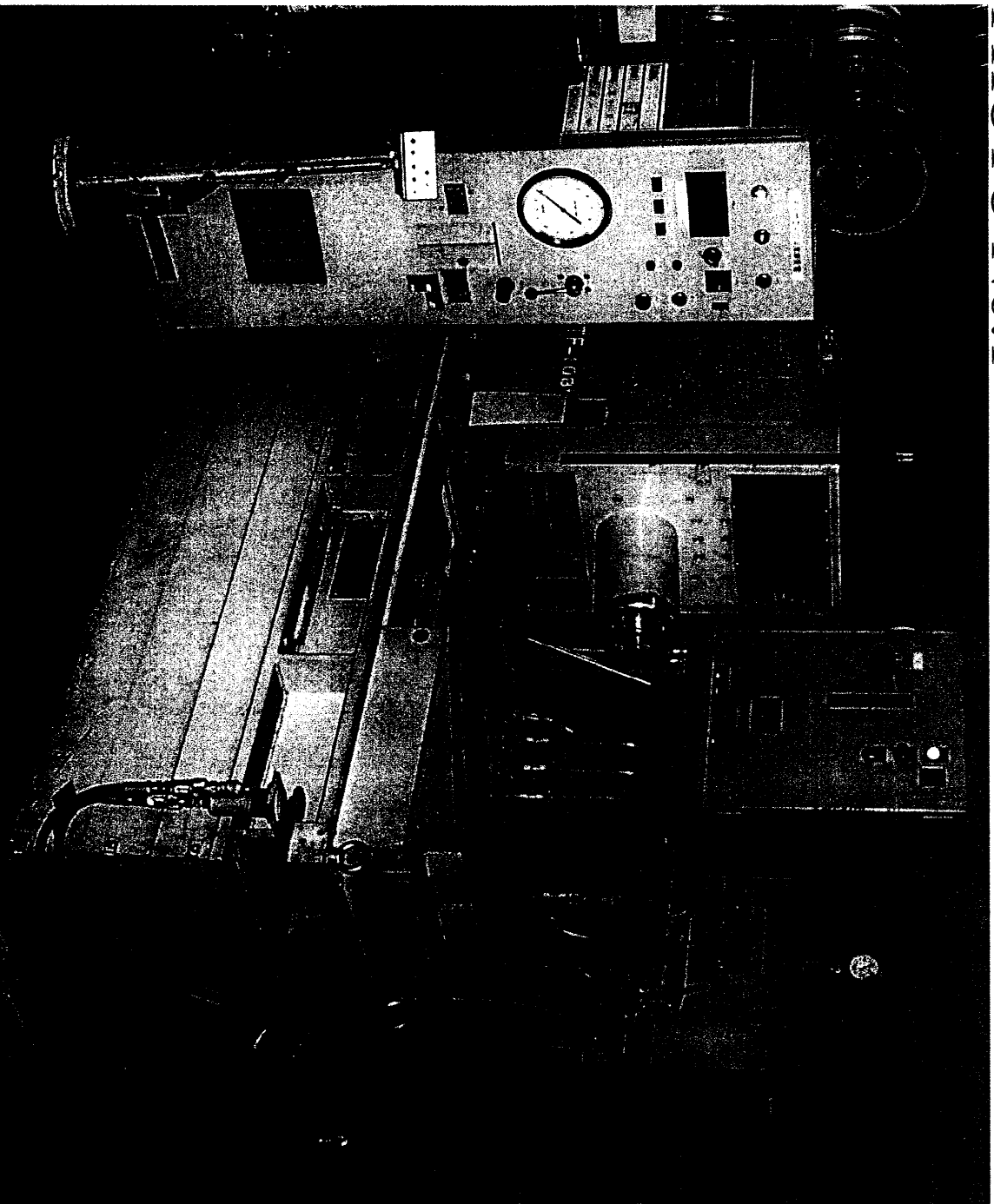
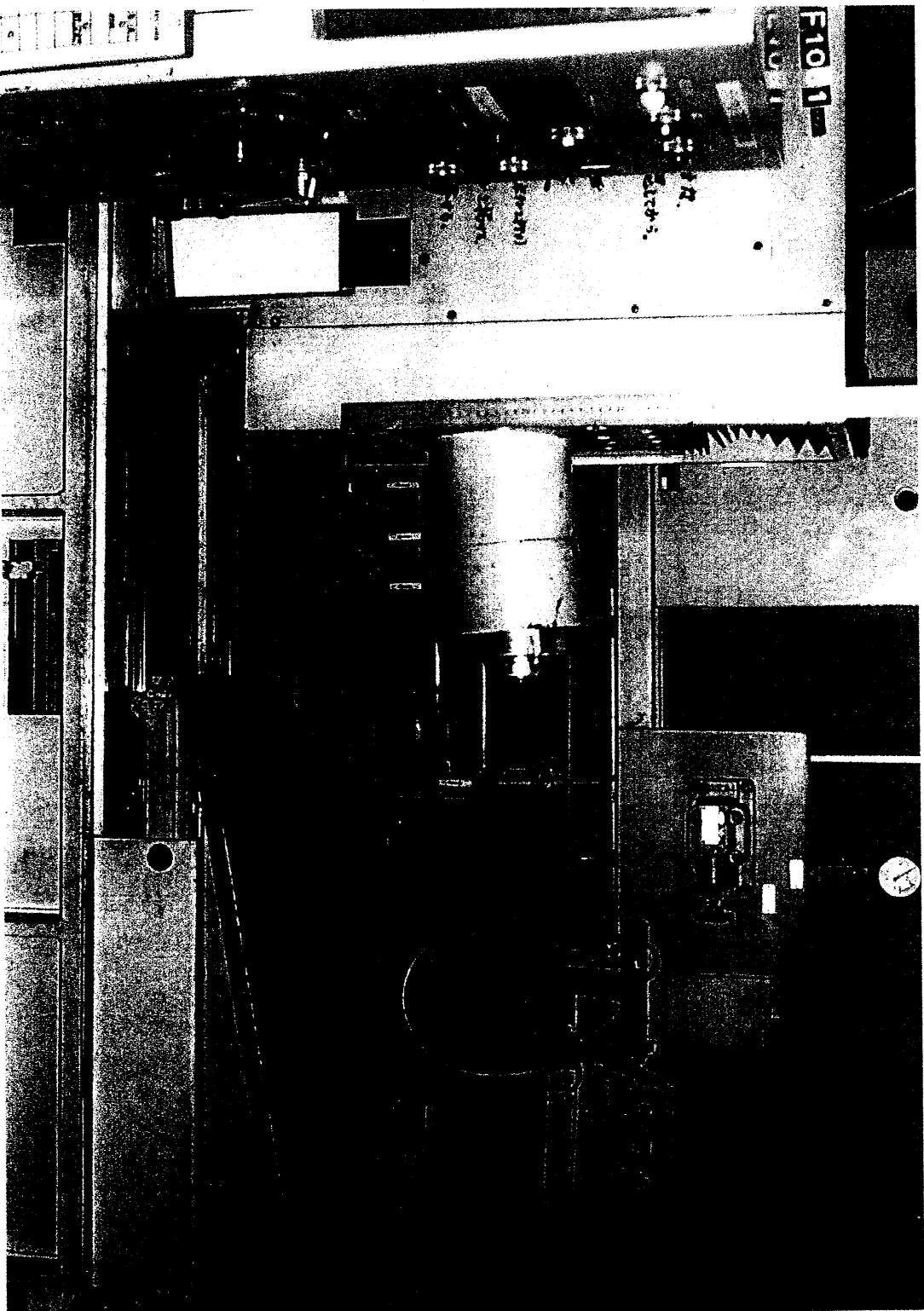
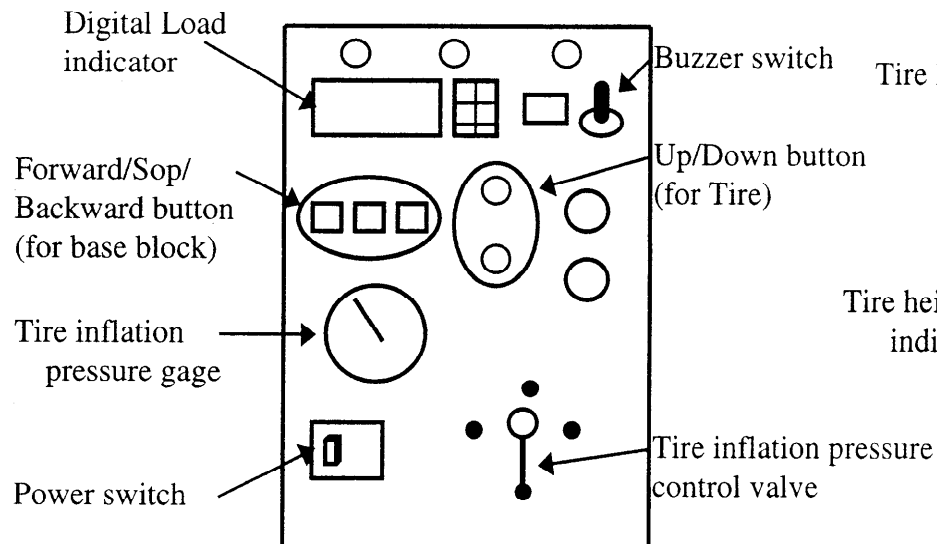


PHOTO No.2

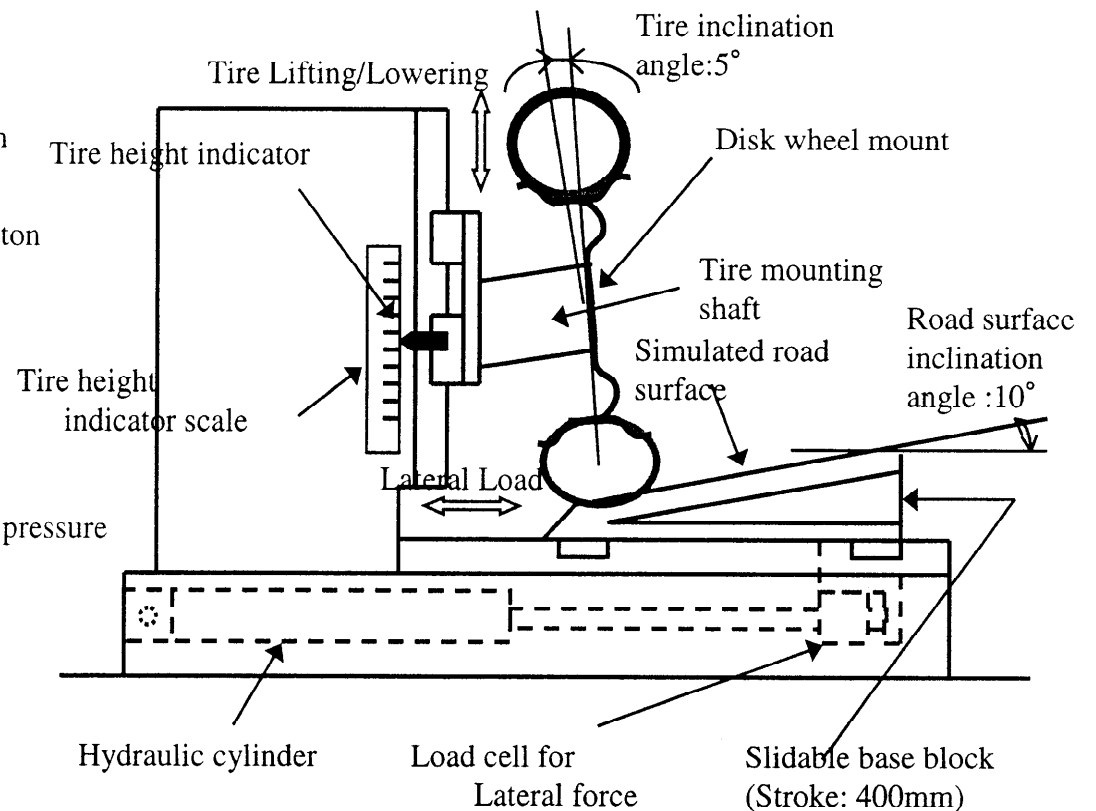


III. OUTLINE OF EQUIPMENT

CONTROL PANEL



TEST APPARATUS



IV. TEST CONDITION

❑ TIRE INCLINATION ANGLE : 5° (TO THE VERTICAL AXIS)

❑ SIMULATED ROAD SURFACE

INCLINATION ANGLE : 10° (TO THE HORIZONTAL AXIS)

SURFACE : STEEL

❑ BASE BLOCK SPEED : 200mm/s (at NO-LOAD CONDITION)

FRICTION COEFFICIENT : UNDER 0.01

(TO THE SLIDE DIRECTION)

❑ LATERAL FORCE SETTING

3 LEVELS IN STEPS OF 2kN

THE MEDIUM SETTING OF THE LATERAL FORCE IS

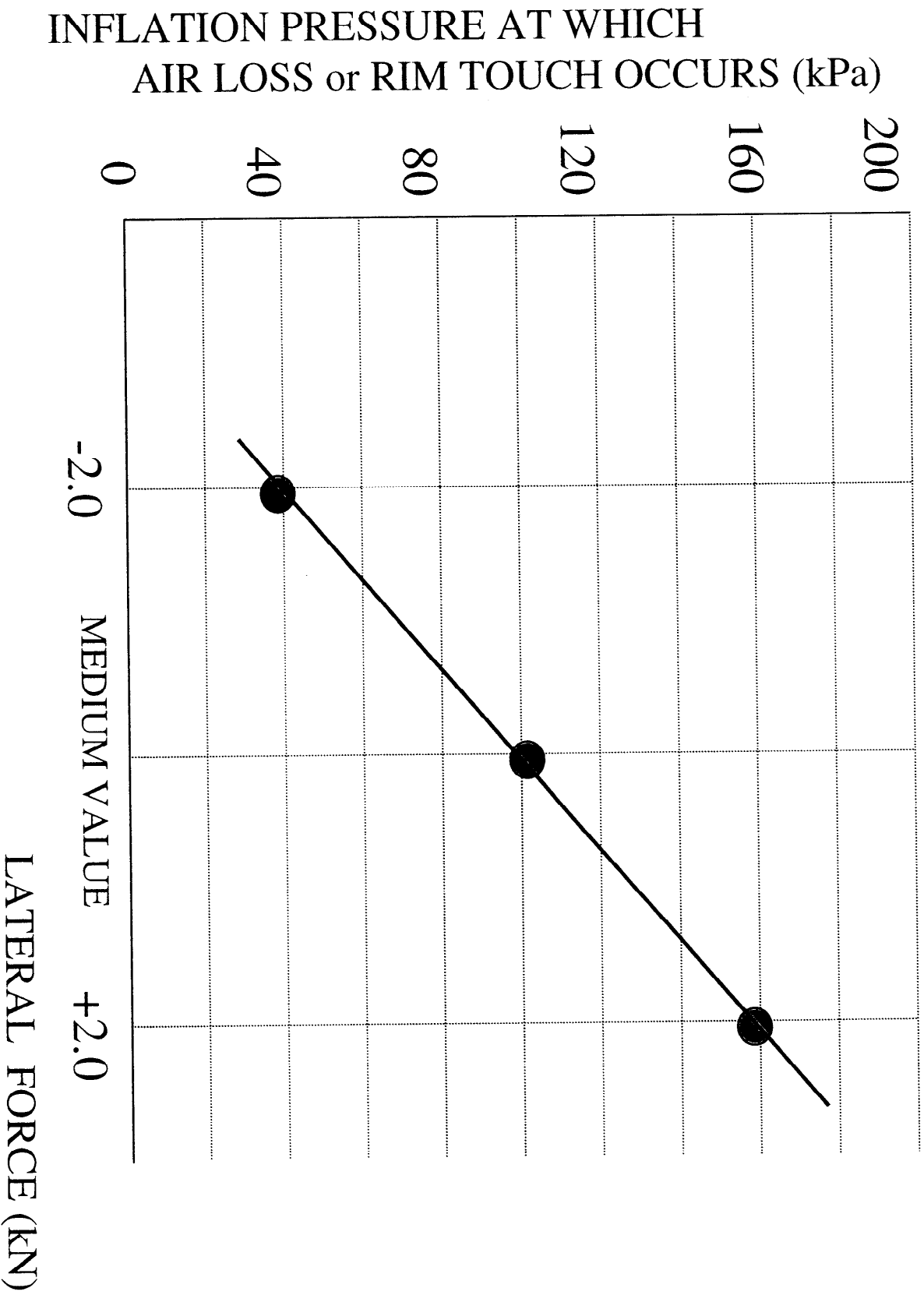
ABOUT 2 TIMES THE FRONT WHEEL LOAD

RECORD THE TIRE INFLATION PRESSURE UNDER

WHICH AN AIR LOSS OR RIM TOUCH OCCURS AT

EACH LEVEL OF LATERAL FORCE

ex.) TEST RESULTS



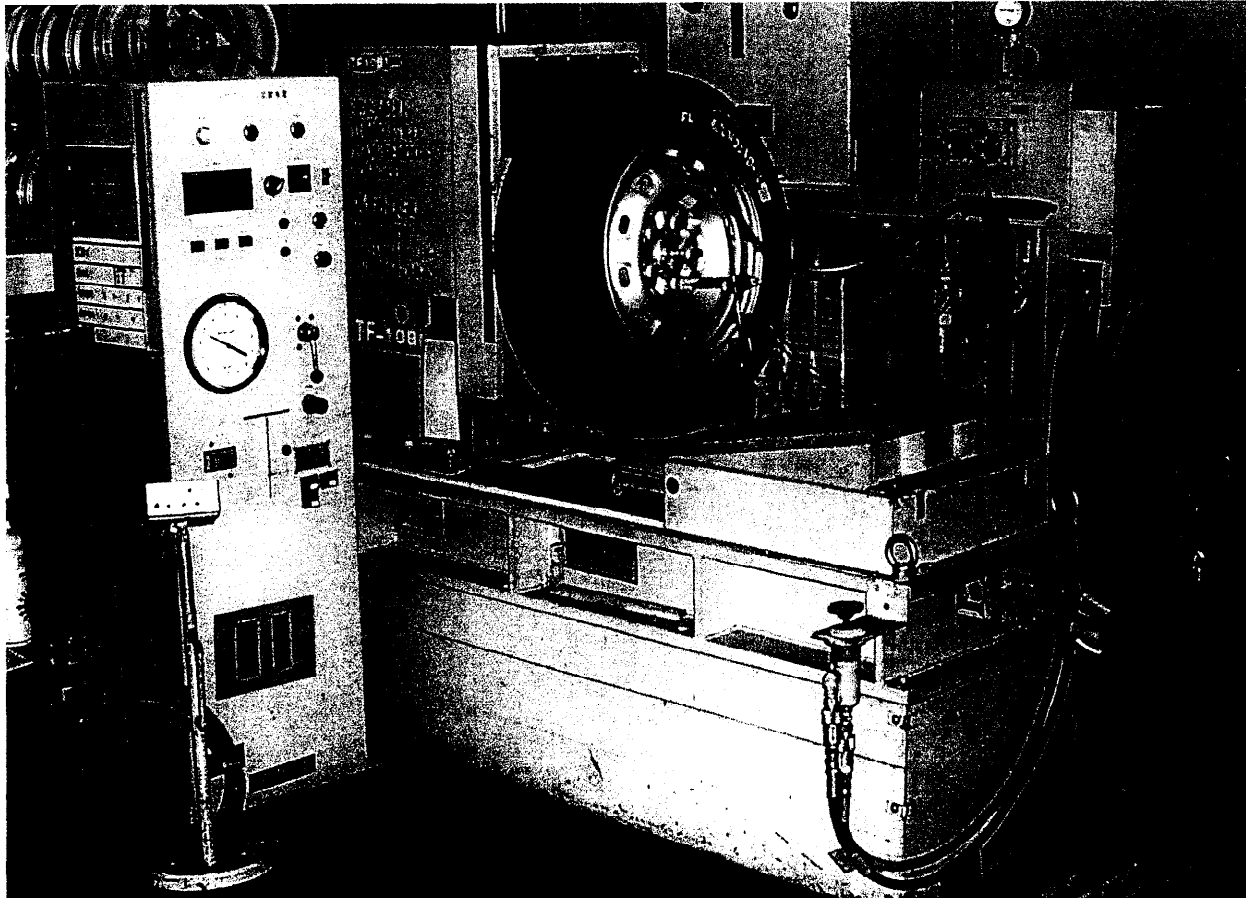
V. TEST PROCEDURE

① LUBRICANTS SUCH AS SOAPY WATER MUST NOT BE USED TO INSTALL TIRE ON WHEEL

SET THE TEST TIRE ON THE TEST APPARATUS

(CONNECT A TIRE INFLATION HOSE TO THE TIRE AIR VALVE.)

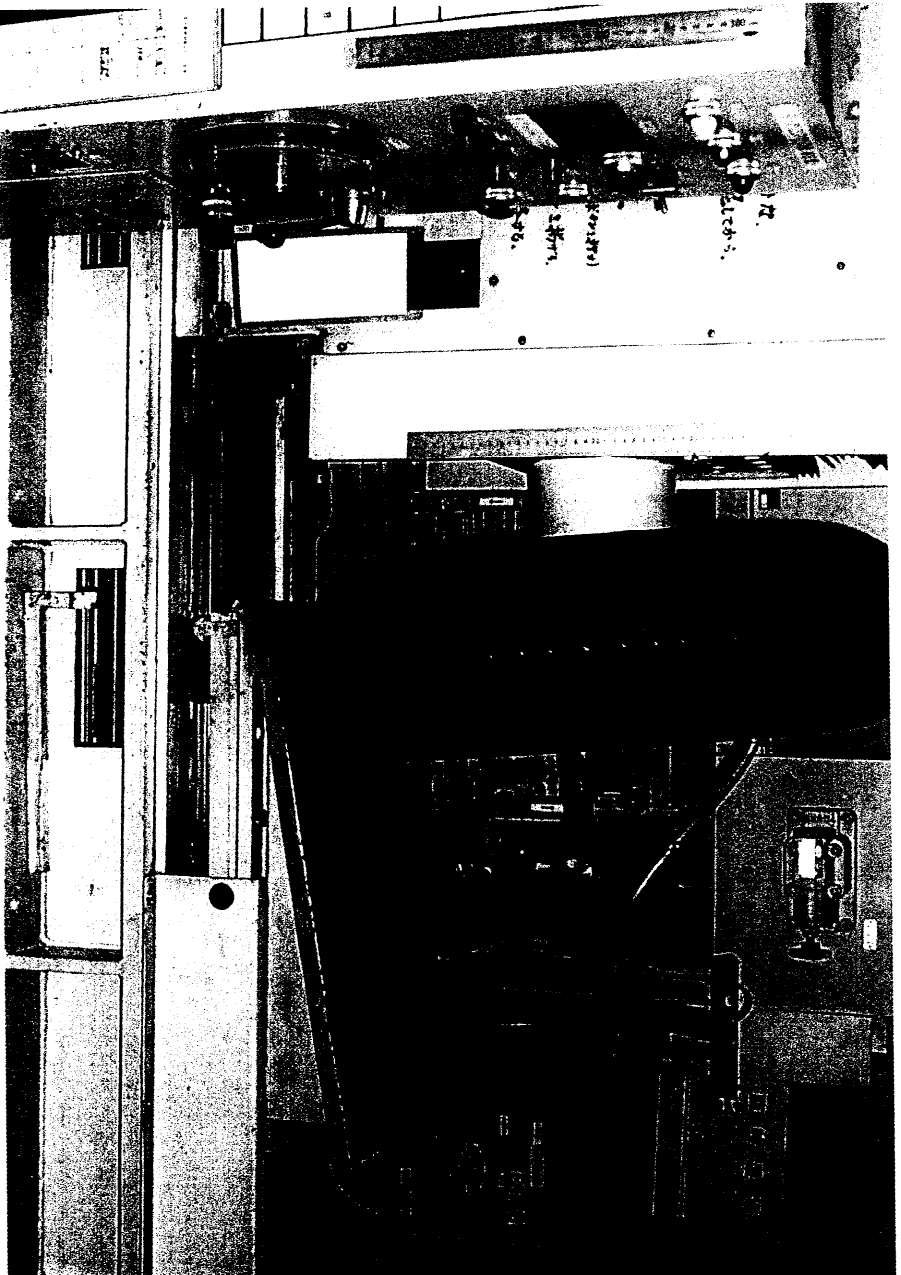
PHOTO No.3



②-1 ADJUST THE VERTICAL POSITION

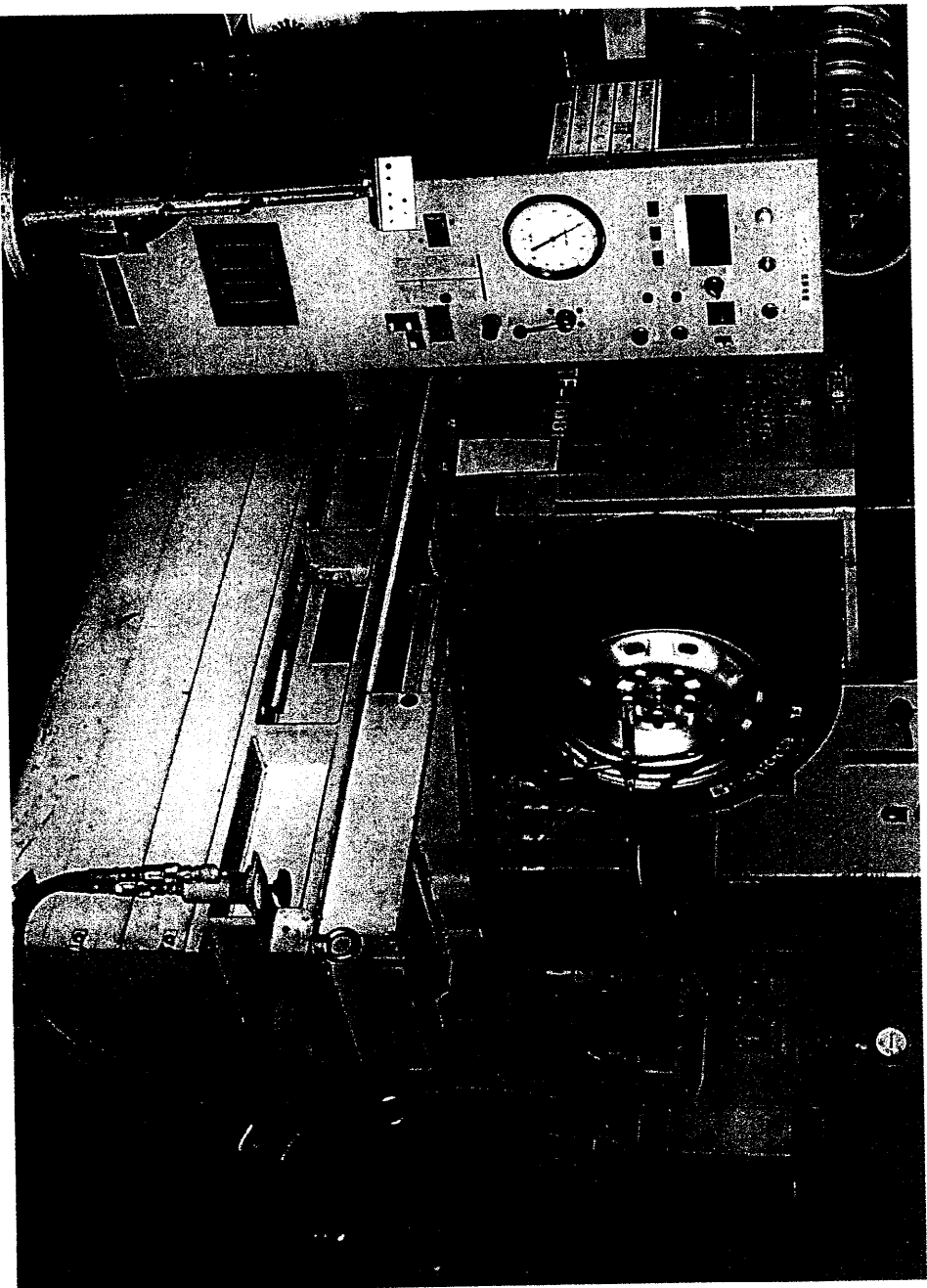
ALIGN TIRE CENTER TO THE BEND IN THE BASE BLOCK.

PHOTO No.4



②-2

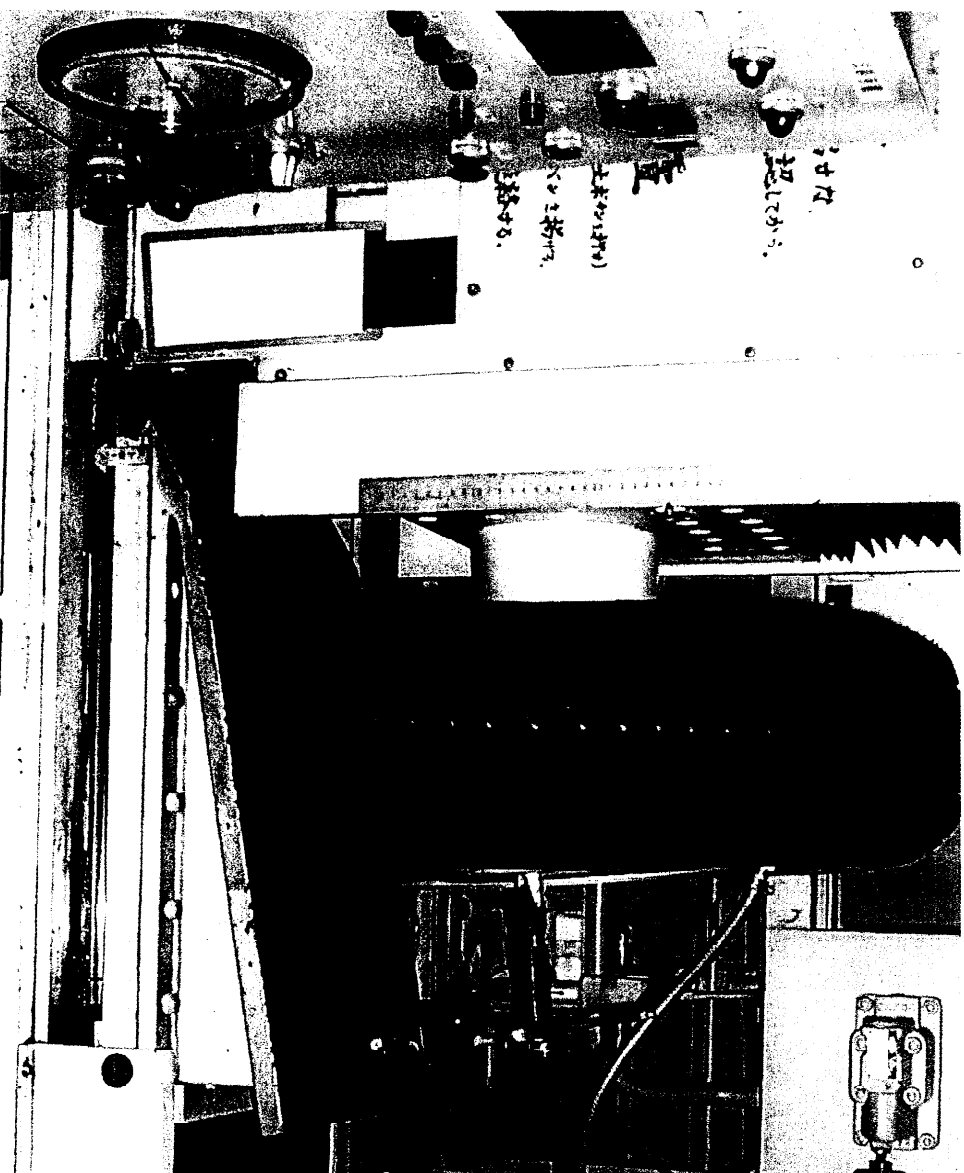
PHOTO No.5



- ❑ APPLY 300-400kPa TO EXPAND TIRE TO FIT WELL TO THE WHEEL.
SET PLACARD AIR PRESSURE +50 (kPa) INITIALLY.
- ❑ DRIVE THE BASE BLOCK FORWARD TO APPLY A LATERAL FORCE TO THE TIRE.
- ❑ WHILE WATCHING THE LOAD INDICATION ON THE CONTROL PANEL, ADJUST THE LOAD SO THAT THE BASE BLOCK STOPS AT THE DESIRED LATERAL FORCE.
- ❑ REDUCE 10kPa/STEP UNTIL AIR LOSS OCCURS.

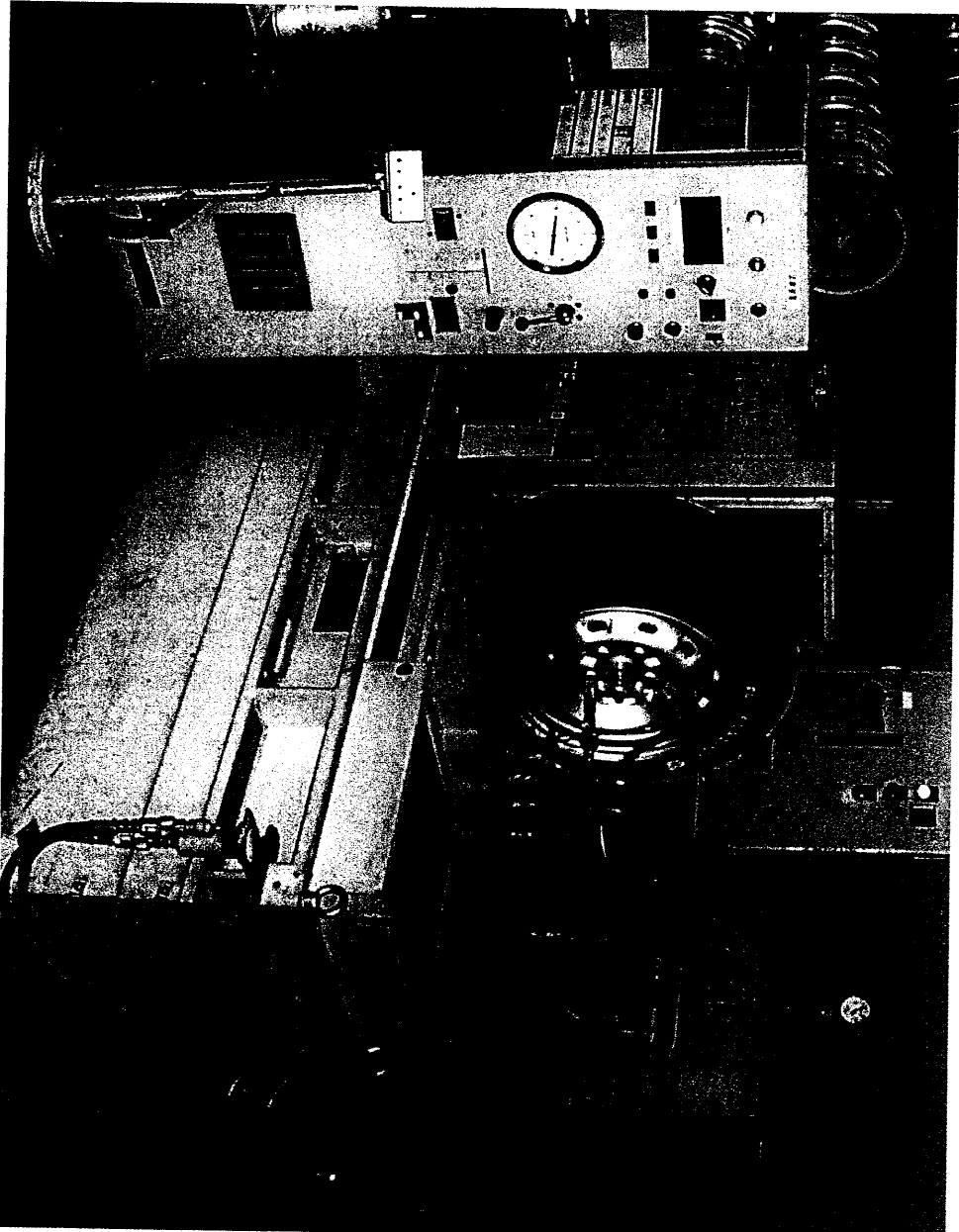
③-1 DRIVE THE BASE BLOCK FORWARD TO APPLY THE
REGULATED LATERAL FORCE TO THE TIRE
(MAINTAIN THE LATERAL FORCE FOR 20sec.)

PHOTO No.6



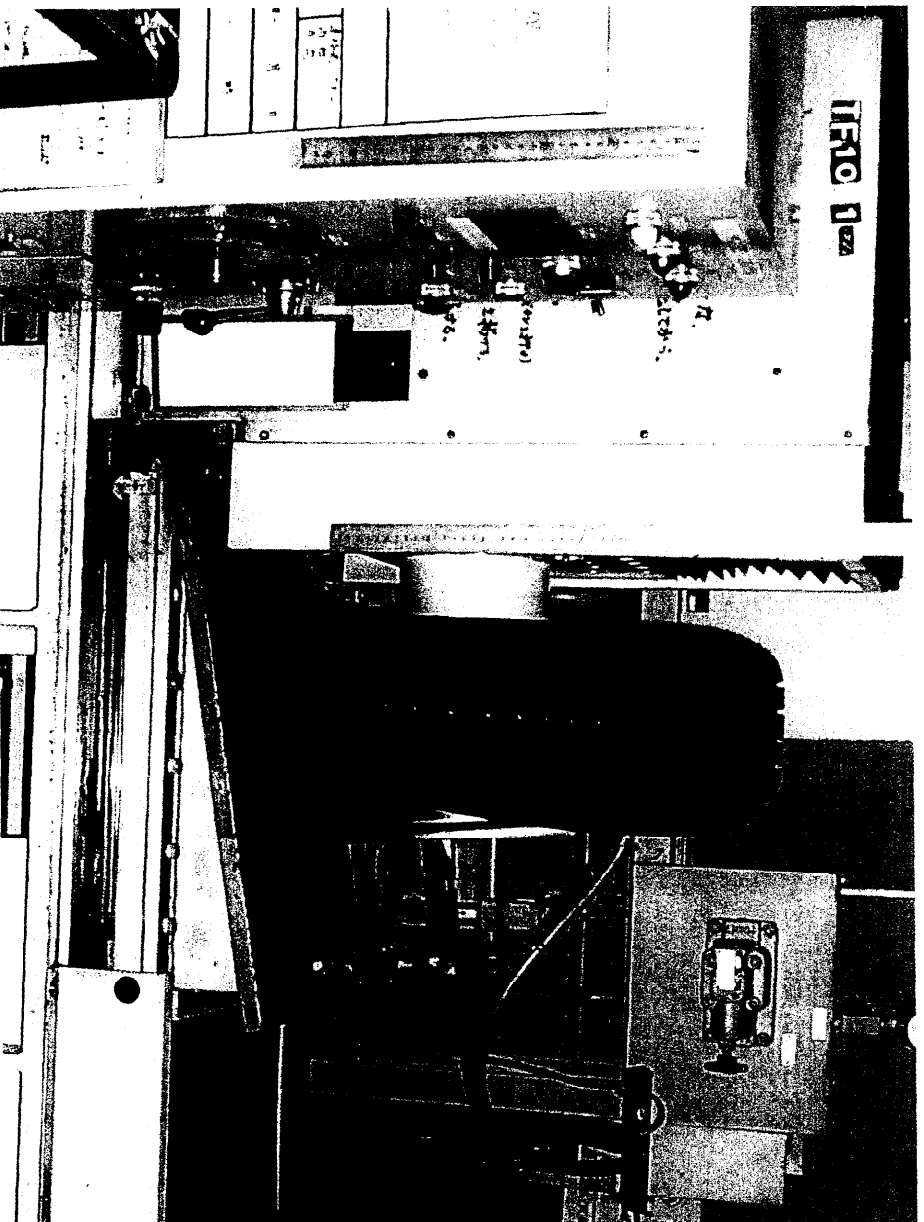
③-2

PHOTO No.7



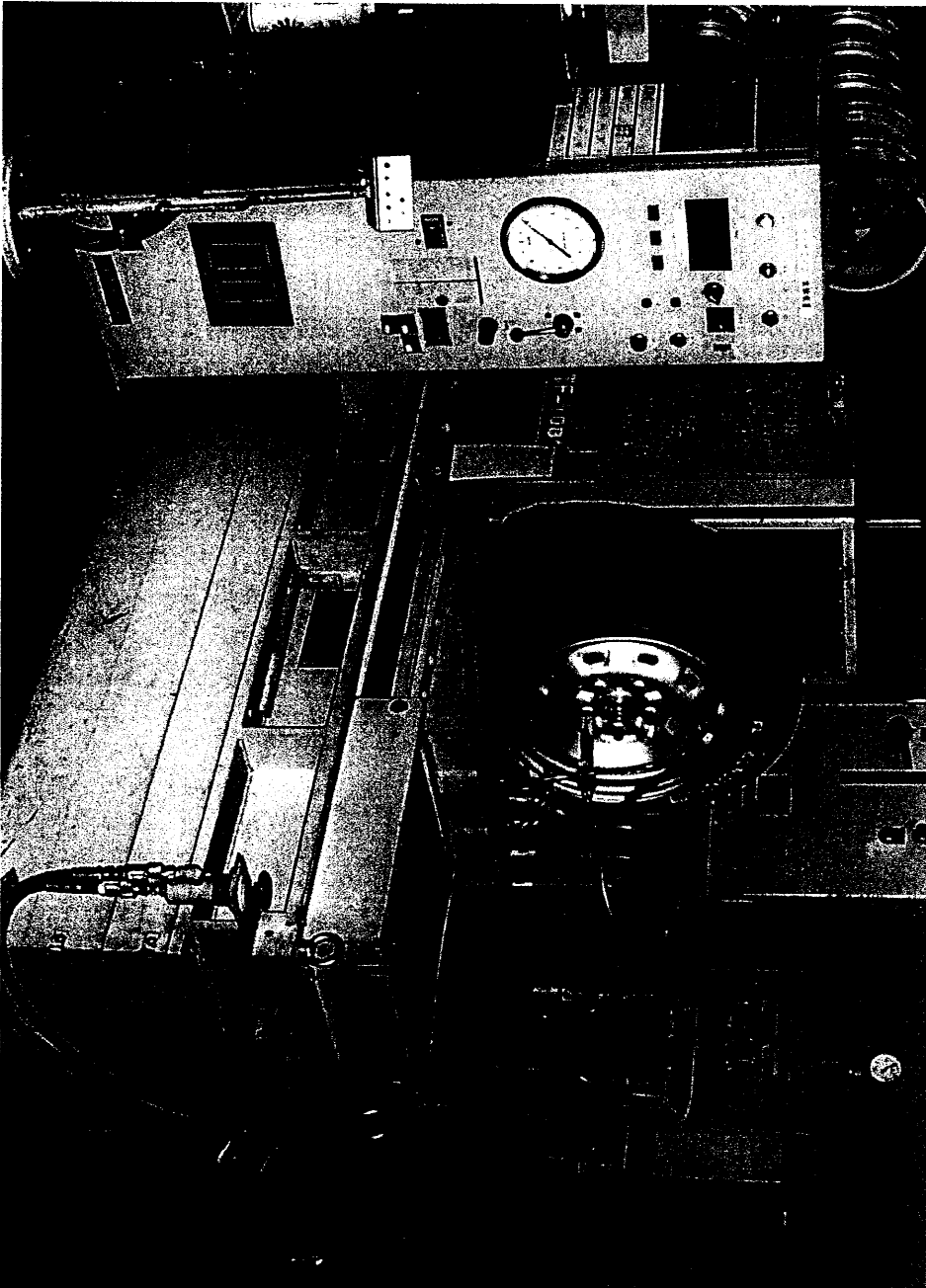
④-1 WHEN AIR LOSS or RIM TOUCH OCCURS, RECORD
THE LATERAL FORCE AND INFLATION PRESSURE
AND VERTICAL POSITION OF THE TIRE

PHOTO No.8



④-2

PHOTO No.9



ex.) TEST RESULTS

